AMENDMENTS TO THE CLAIMS

1. (Original) A switchable polarizer for optical projection displays, said comprising:

a first electrode;

a second electrode; and

a layer of liquid crystal material positioned between the first and second electrodes;

wherein the first and second electrodes conduct current to heat the polarizer.

2. (Original) The switchable polarizer of claim 1, wherein the current passing through the first electrode is equal in magnitude to the current passing through the second electrode.

3. (Original) The switchable polarizer of claim 2, wherein the currents passing through the first and second electrodes are constant.

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4. (Original) The switchable polarizer of claim 2, wherein during a heating operation, the first and second electrodes apply a uniform electric field across the liquid crystal material.

5. (Original) The switchable polarizer of claim l, wherein no current passes through the first and second electrodes when the electrodes are not heating the polarizer.

6. (Original) The switchable polarizer of claim 1, wherein during a non-heating operation of the polarizer, no current passes through either electrode, and the first electrode is at a first potential and the second electrode is at a second potential different from the first potential.

7. (Original) The switchable polarizer of claim 1, wherein the first and second electrodes are transparent electrodes.

8. (Original) The switchable polarizer of claim 1, wherein the first electrode receives a first voltage signal and the second electrode receives a second voltage signal.

9. (Original) The switchable polarizer of claim 8, wherein the first and second voltage signals are alternating signals.

10. (Original) The switchable polarizer of claim 9, wherein the first and second voltage signals are symmetrically opposite bipolar signals.

11. (Original) The switchable polarizer of claim 1, wherein the polarizer serves as a polarization compensator in an optical projection display.

12. (Original) The switchable polarizer of claim 1, wherein the polarizer is a polarizing switch of an electronic color switch.

13. (Original) A method of driving a switchable polarizer in one of two modes, the switchable polarizer having first and second electrodes and a liquid crystal material between the electrodes, wherein during a first driving mode, the electrodes heat the liquid crystal material, while during the second driving mode, the electrodes do not heat the liquid crystal material, said method comprising:

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drawing equal currents through the first and second electrodes during the first driving mode; and

applying a first voltage signal to the first electrode and a second voltage signal to the second electrode during both the first and second driving modes, the first and second voltage signals sustaining the currents drawn through the first and second electrodes during the first driving mode.

14. (Original) The method of claim 13, wherein the drawing of currents through the electrodes includes coupling the electrodes to two current sources.

15. (Original) The method of claim 14, wherein the applying of the voltage signals to the electrodes includes coupling each electrode to an output of an amplifier.

16. (Original) The method of claim 14, wherein the applying of the voltage signals to the electrodes includes applying first and second voltage signals that are alternating signals.

17. (Previously Presented) A switchable polarizing apparatus for optical projection displays, said apparatus comprising:

a first electrode for receiving a first driving signal, and a second electrode for receiving a second driving signal, wherein the first and second driving signals are different;

a layer of liquid crystal material positioned between the first and second electrodes;

a first current source switchably coupled to the first electrode, said first current source for drawing a first current through the first electrode;

a second current source switchably coupled to the second electrode, said second current source for drawing a second current through the second electrode, said second current being equal in magnitude to the first current; and

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a buffer circuit coupled to the first and second electrodes, said buffer circuit applying the driving voltage signals to the first and second electrodes, said driving signals sustaining the first and second currents through the electrodes.

18. (Original) The apparatus of claim 17, wherein the buffer circuit includes a programmable gain amplifier for each electrode, each amplifier applying the driving voltage signal to its corresponding electrode.

19. (Original) The apparatus of claim 17, wherein each programmable gain amplifier receives a polarization drive signal and a reference voltage signal, the reference voltage signal determining the magnitude of the driving voltage signal applied by the amplifier, and the polarization drive signal determining the polarity of the driving voltage signal applied by the amplifier.

20. (Currently amended) A switchable polarizer for optical projection displays, comprising:

a set of electrodes arranged in two layers; and

a layer of liquid crystal material positioned between the two layers of the set of electrodes;

wherein said set of electrodes are operable to control polarization states of said layer of liquid crystal and are operable to conduct sufficient current to control a temperature of said layer of liquid crystal.

21. (Currently amended) The switchable polarizer of claim 20 wherein each of said set of electrodes includes a respective first contact and a respective second contact.

22. (Previously Presented) The switchable polarizer of claim 20 further comprising:

a set of switches that selectively enable current to flow through said set of electrodes.

23. (Previously Presented) The switchable polarizer of claim 20 further comprising:

a set of amplifiers that supply current to said set of electrodes.

24. (Currently amended) A method of operating a liquid crystal polarizer, comprising:

driving a set of electrodes to cause current to flow through said set of electrodes to sufficiently heat a liquid crystal layer of said liquid crystal polarizer to control a temperature of said liquid crystal layer, wherein said set of electrodes is arranged in two layers surrounding said liquid crystal layer; and

driving said set of electrodes to establish an electric field across said layer of liquid crystal to control polarization states of said liquid crystal.

25. (Previously Presented) The method of claim 24 wherein said driving said set of electrodes to cause current to flow and said driving said set of electrodes to establish an electric field occur simultaneously.

26. (Previously Presented) The method of claim 24 wherein said driving said set of electrodes to cause current to flow and said driving said set of electrodes to establish an electric field occur in different operational modes.

27. (Previously Presented) The method of claim 24 wherein said driving said set of electrodes to cause current to flow includes:

engaging a plurality of switches coupled to said set of electrodes.

28. (Previously Presented) The method of claim 24 wherein said driving said set of electrodes to cause current to flow applies symmetric bipolar signals to drive said first set of electrodes to a positive potential and to drive said second set of electrodes to a negative potential.